Work Ord <i>May-13-13 1:11</i>)1663		*101	1663*						Page 1		
Item ID: D2012-115 Revision ID: Item Name: Joggled Brad			,	Accept	*N900	<u>040</u>	100)* s	etup Sta	1 7	S1* S2*	_	
Start Date: Required Date: Reference:	5/13/13 5/24/13	Start Qty: 8.00 Req'd Qty: 8.00	*8* *8*		Cust Item I Customer:	D:							
Approvals:		an: <u>ML5</u>	Date: /3-05-/			ate:		R	tun Sta Sto	1/1	R1* R2*		
Sequence ID/ Work Center II	D	Operation Description	,	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp		
Draw Nbr	Re	vision Nbr											
D2012-115	В]											
100		FLOW WATER JET		0.00		,		R	ပ		ImB.o	3- みく	
Waterjet FLOW CNC Waterj 304 - 063		Memo 1-Cut as per Dwg Rev: Prog Rev: 2-Deburr if i	B	0.00								, 0 3	
110		QC2- Inspect parts off m	achine FAI/FAIB	0.00				ā					
110 QC Quality Control		Memo		0.00				8_	0		Jm 13.07	7-25	

0.00 57.26

120

120

Quality Control

QC8- Inspect parts - second check

Memo

											DQA:	Date:	*•
NCR: Y	es /	No				WORK ORDER NON-C	OI	VFORM	MANCE / UP	DATE	QA Closed:	Date:	
					·						QA Closed.	Date.	
Work Orde	sr.					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
WOIR OIG	···					Rework	1		Skid-tube	Crosstube		Water Jet	Engineering
Part N	lo.					Scrap	1		Machining	Small Fab	Pro	d. Eng. Coor.	Quality
						Use-as-is	1		noforming	Finishing		re/Packaging	Other
NCR N	NCR No.					Work Order Update				Composite		Supplier	
Root	_		_	_		ption of work order update	1	Initial		tion	Sign &	.,	
Cause	Da	ate	Step	Qty		or Non-conformance	Ch	ief Eng	Desc	ription	Date	Verification	QC Inspector
Doc/Data	_												
Equip/Tooling	_												
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Setup		1					ļ						
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Process											1		
Supplier Training	H												
Unapproved	\vdash												
опаррточеа	<u> </u>				L	- F	AUL	T CATE	GORY		L		
Landi	ng Gear					General							
	Bend	ding				Bend		Grain			Ovalized		Pressure/Forced
	Cent	re Not	Concer	itric to	o/s	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
	Crac	ks				Broken/Damaged		Inspecti	on Incomplete		Part Incorred	ct	Weld
	Crus	hed/C	rimped			Burrs		Instruct	ions Incomplete/	Unclear	Part Lost/Mi	ssing	Wrong Stock Pulled
	Cuff	s				Contamination		Mainte	nance		Part Moved		
	Hear	t Treat				Countersink		Mislabe	led		Positioned V	Vrong	-
	Insp	ection	Strip in	Tube		Cut Too Short		Misread	i		Power Loss/	Surge	Other
	Ripp	les in f	Bend			Drill Holes		Offset					
	Torc	ue Wa	ves in E	xtrusio	n [Drawing		Out of C	Calibration				

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Finish Folio

Work Order ID	101663
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Packaging

Packaging

101663

Page 2

May-13-13 1:11:06 PM D2012-115-3 Accept *N900040100* Setup Start Item ID: **Revision ID:** Joggled Bracket Item Name: *8* Start Qty: 8.00 **Start Date:** 5/13/13 **Cust Item ID:** Req'd Qty: 8.00 Required Date: 5/24/13 **Customer:** Reference: Run Date: Tooling: Approvals: Process Plan: Date: Stop Date: QC: SPC (Y/N): Date: Sequence ID/ Reject Tool # Plan Reject Operation Set Up/ Tool ID Accept Insp. Number Stamp **Work Center ID** Code Qty Qty Description **Run Hours** 0.00 130 Form as per dwg NC BRAKE *130* Brake NC 0.00 Memo Brake NC DAS 27 9-89 QC5- Inspect part completeness to step on W/O 140 13-926 *140* QC. 0.00 Memo Quality Control Identify as per dwg & Stock Location: WA 7 150 *150*

0.00

Memo

NCR:	Yes	/	No
MCIV.	162	/	140

DQA: Date:

NCR: Ye	es / No				WORK ORDER NON-C	CONFO	RMANCE / UI	PDATE			
	· 						<u>.</u>		QA Closed:	Dat	e:
Work Order	r:				DISPOSITION		<u>-</u>	AGAINST DE	PARTMENT	/PROCESS	
Part No					Rework Scrap		Skid-tube Machining	Crosstube Small Fab	4	Water Jet d. Eng. Coor.	Engineering Quality
NCR No	0				Use-as-is Work Order Update	Th	ermoforming Large Fab	Finishing Composite	Rec/Sto	re/Packaging Supplier	Other
Root				Descri	ption of work order update	Initia	A	ction	Sign &		
Cause	Date	Step	Qty	(or Non-conformance	Chief E	ng Des	cription	Date	Verification	QC Inspector
oc/Data											
quip/Tooling						1					
perator		ļ				<u> </u>					
//aterial											
etup									İ] ·	
Other		Į									
rocess		İ									
upplier											
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Inapproved						<u> </u>				<u> </u>	
					F	AULT CA	TEGORY				
Landin	g Gear				General				7	_	 1
L	Bending				Bend	Grai	n		Ovalized		Pressure/Forced
L	Centre No	ot Conce	ntric to (o/s	BOM/Route	Hard	ware	<u> </u>	Over/Under	tolerance	Temperature/Cure
L	Cracks				Broken/Damaged	Insp	ection Incomplete		Part Incorre	ct	Weld
L	Crushed/	Crimped			Burrs	Instr	uctions Incomplete	e/Unclear	Part Lost/M	issing	Wrong Stock Pulled
	Cuffs				Contamination	Mai	ntenance		Part Moved		
	Heat Trea	at			Countersink	Misl	abeled		Positioned V		·
	Inspectio	n Strip in	Tube		Cut Too Short	Misr	ead		Power Loss/	'Surge	Other
	Ripples ir	n Bend			Drill Holes	Offs	et				
	Torque V	Vaves in I	Extrusio	n 🗀	Drawing	Out	of Calibration			•	·
	Turning S	Sequence	<u></u>		Finish	Out	of Sequence				
Γ	¬wave/ти	vist in Tul	he	[Teolio	Out	ide Dimensions				

Work Ord <i>May-13-13 1:1</i>		01663		*101								
Item ID: Revision ID:	D2012-115			Accept	*N900	040	100	*	•		NS1* NS2*	
Item Name: Start Date: Required Date Reference:	Joggled Brac 5/13/13 : 5/24/13	Start Qty: 8.00 Req'd Qty: 8.00	*8* *8*		Cust Item I Customer:	D:					N.7/	
Approvals:	Process Pl	an:	Date:	Tooling: SPC (Y/N):		ate:		I		tart * top *	NR1* NR2*	r r
Sequence ID/ Work Center I 160 *160*	D	Operation Description QC21- Final Inspection	- Work Order Release	Set Up/ Run Hours 0.00	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Rejec Numl		
QC Quality Control		Memo		0.00						1410		

NB-Dans

										DQA:	Da	ite: _	·
NCR: Y	es / No				WORK ORDER NON-C	100	NFORM	MANCE / UPDATE		QA Closed:	Da	ate:	•
Work Orde	··				DISPOSITION			AGAINST D	EF	PARTMENT	/PROCESS		
Part No	o				Rework Skid-tube Crosstube Machining Small Fab Use-as-is Thermoforming Finishing Work Order Update Large Fab Composite				Water Jet Prod. Eng. Coor. Rec/Store/Packaging Supplier			Engineering Quality Other	
												<u> </u>	·
Root				Descri	ption of work order update	1	Initial	Action	-	Sign &		l	
Cause	Date	Step	Qty	(or Non-conformance	Ch	ief Eng	Description	┙	Date	Verificatio	<u>in</u>	QC Inspector
Doc/Data													
Equip/Tooling									ŀ				
Operator													
Material													
Setup													
Other				1									
Process]											
Supplier				ļ									
Training													
Unapproved								***	\sqcup				···········
			<u> </u>		F/	AUL	T CATE	GORY			·		
Landin	g Gear			<u> </u>	General		•	_	_				
	Bending				Bend	<u> </u>	Grain	L	-	Ovalized		-	Pressure/Forced
	Centre No	Centre Not Concentric to O/S			BOM/Route		Hardwa	re	\dashv	Over/Under	tolerance		Temperature/Cure
Ĺ	Cracks			Broken/Damaged		4 .	on Incomplete	_	Part Incorred		\vdash	Weld	
	Crushed/	Crimped			Burrs		Instruct	ions Incomplete/Unclear	\Box	Part Lost/Mi	ssing		Wrong Stock Pulled
	Cuffs				Contamination		Mainte	nance		Part Moved			
	Heat Treat				Countersink		Mislabeled			Positioned Wrong			

Misread

Out of Calibration

Out of Sequence

Outside Dimensions

Offset

Power Loss/Surge

Other

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Inspection Strip in Tube

Torque Waves in Extrusion

Cut Too Short

Drill Holes

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Picklist Print

* May-13-13 1:11:06 PM

Work Order ID:

101663

Parent Item:

D2012-115-3

Parent Item Name:

Joggled Bracket

Start Date: 5/13/13

Required Date: 5/24/13

Page 1

Start Qty: 8.00

Required Qty: 8.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S16GA 304/316 Sheet .063		Purchased	No			100	sf	474.1714	0.016	0.1347368 ころち		Jm.	B-07· 26
				Location		Loc Oty	<u>Lo</u>	c Code					
				MAT020		474.1713688							
				12224	15	0.1713688							
				12313	16	140.8							
				12442	28	28.9							
				12457	2	48.3							
				12559	9	256							
				126	159				196	159			

											DQA:	Date:	· .
NCR:	Yes	/ No			•	WORK ORDER NON-C	CON	FORM	MANCE / UPI	DATE		D -1	•
								,			QA Closed:	Date:	
Work Orde	or.					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
WOIK OIG	-			_		Rework	7		Skid-tube	Crosstube	1	Water Jet	Engineering
Part N	No					Scrap	1		Machining	Small Fab	Pro	d. Eng. Coor.	Quality
raiti	٠٠. ـ	···				Use-as-is	1 I		noforming	Finishing	i	re/Packaging	Other
NCR I	N۵					Work Order Update	1		Large Fab	Composite	1100,0101	Supplier	
IVCIVI	10.					Work Order opdate	۱ ا		carge rab	composite	1	54 ppe.	
Root	П				Descri	ption of work order update	In	itial	Act	tion	Sign &		
Cause		Date	Step	Qty		or Non-conformance	Chi	ef Eng	Desci	ription	Date	Verification	QC Inspector
Doc/Data													
Equip/Tooling													
Operator							1						
Material	П						1						
Setup													
Other							1						
Process			1				İ						
Supplier					:								
Training													
Unapproved													
,						F	AULT	CATE	GORY				
Landi	ng G	iear	· · · · ·			General					_		
l — — — — — — — — — — — — — — — — — — —			Bend		Grain			Ovalized		Pressure/Forced			
Centre Not Concentric to O/S				BOM/Route Hardware					Over/Under	tolerance	Temperature/Cure		

Inspection Incomplete

Maintenance

Out of Calibration

Out of Sequence

Outside Dimensions

Mislabeled

Misread

Offset

Instructions Incomplete/Unclear

Broken/Damaged

Contamination

Countersink

Cut Too Short

Drill Holes

Drawing

Finish

Folio

Burrs

Part Incorrect

Part Moved

Part Lost/Missing

Positioned Wrong

Power Loss/Surge

Weld

Other

Wrong Stock Pulled

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Cracks

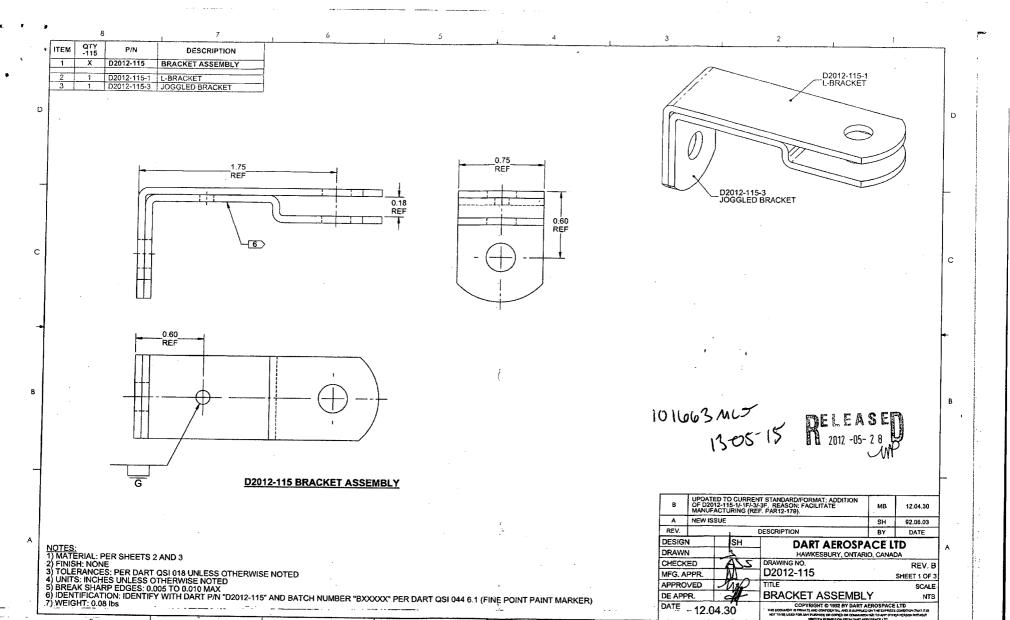
Cuffs

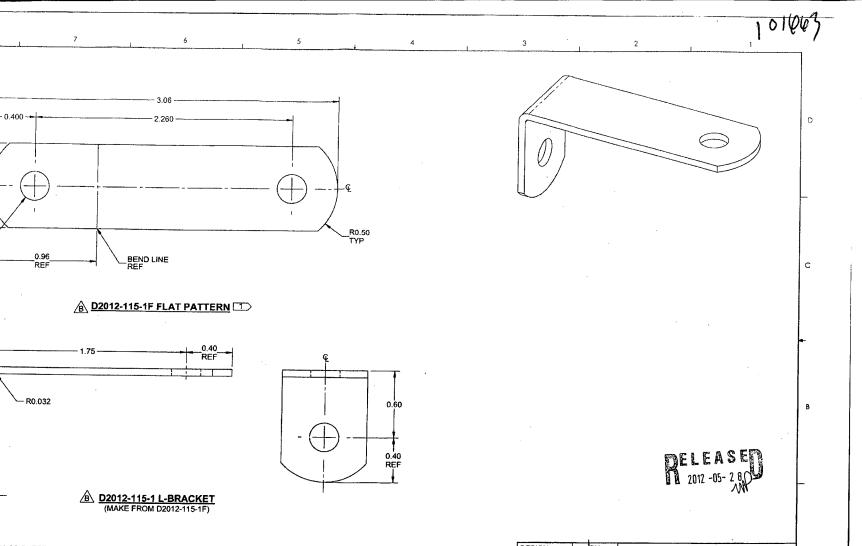
Heat Treat

Crushed/Crimped

Inspection Strip in Tube

Torque Waves in Extrusion





NOTES:
1) MATERIAL: AISI 304/316 SS SHEET ANNEALED 2B FINISH, 0.063 THICK, PER MIL-S-5059 OR AMS 5513 (304) OR AMS 5524 (316) OR ASTM A240 OR ASME SA240 REF. DART SPEC. M304S16GA

0.375 0.75

Ø0.257

0.063

REF

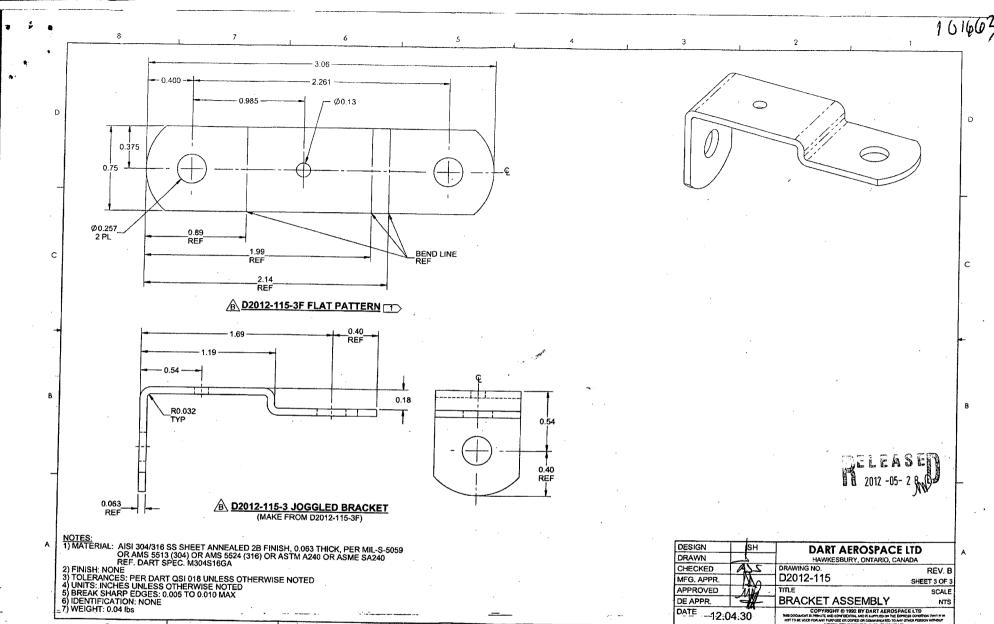
REF. DART SPEC. M304S16GA
2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: NONE
7) WEIGHT: 0.04 lbs

DESIGN DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWN DRAWING NO. D2012-115 CHECKED REV. B MFG. APPR. SHEET 2 OF 3 TITLE APPROVED SCALE BRACKET ASSEMBLY

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TO SE ORDER OF ANY PROPERS OF COPPESS OF CONTROLLING ANY TO SEARCH ANY PROPERS OF CONTROLLING ANY TO SEARCH ANY PROPERS OF CONTROLLING ANY PROPERS OF CONTROLLING ANY PROPERS OF CONTROLLING ANY PROPERS OF CONTROLLING ANY PROPERS OF CONTROLLING ANY PROPERS OF CONTROLLING ANY PROPERS OF CONTROLLING ANY PROPERS OF CONTROLLING ANY PROPERS OF CONTROLLING ANY PROPERTY OF CONTROLLING ANY PR DE APPR. NTS DATE ___12:04:30

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DART AEROSPACE LTD	Work Order:	101663
Description:	Part Number:	02012-115-3
Inspection Dwg: D⊘O(∂-11 ≤ Rev: B		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
\$60.00	10.001 -0.001					
Ø 0.13"	11-0.030"	0,126"	-		ν	JEMOI
0.375	4-0000	0.376			V	
0.75	H-0.030"	O. 758"	· –		V	
0.400	4-0.010	0.401			V	
0.985	41-0.010	0.983	_		V	
2.261"	41-0.010	2.263	_		V	
3.06"	4-0.030"	3.061	<u> </u>		V	
3.06"	4-0.00	0.026	_		V	
Ø 0.257"	taxx6-0.001	0.258"	_		U	

					•	

			DAD.		
Measured by:	Jm	Audited by:	27	Preliminary Approval:	
Date:	13-07-25	Date:	13726	Date:	

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	